**DESCRIPTION:**

KPMK : Return and Supply type Egg Crate Grille with 12x12mm or 20x20mm grid size.

**MATERIAL:**

Extruded Aluminum Frame and Grid Core

**APPLICATION :**

It is usually used as a access door .The grille type KPMK is used for the exhaust and supply of large quantities of air with minor pressure loss in facilities such as offices, warehouses, shopping centers....

The grille type KPM is used for the exhaust of large quantities of air with minor pressure loss and as access door for the equipment like fan-coil etc. The access door opens and closes on a push-push action. It locks on the first push and releases with the second push.

**FINISHING :**

- Standard finishing is natural anodized. Electrostatic powder coating is optional.
- Standard colours are RAL 9010 and RAL 9016 . Other colours are available with enamel paint.

**INSTALLATION :**

- System with screws is standard.
- System with clips and plate spring is used if no hole is requested on the frame.

**ACCESSORIES:**

- If desired, it is possible to add a damper to adjust the amount of air to be collected.

PKD: Parallel Blade Damper

ZKD: Opposite Blade Damper

- EU2, EU3, EU4, EU5 type synthetic filter on back of grille



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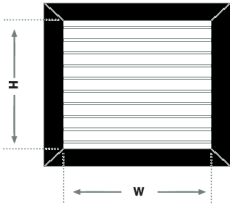
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### STANDARD SIZES (mm) :

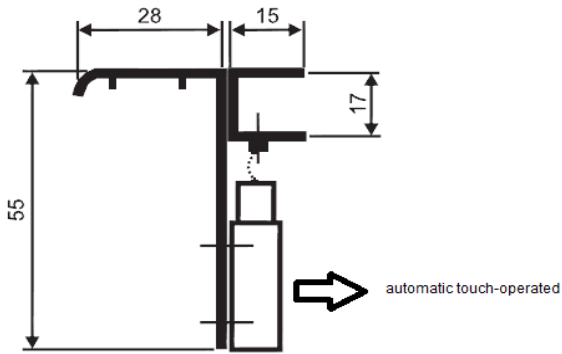


W : 100-150-200-250-300-350-400-450-500-550-600-650-700-750-800-900-1000-1100-1200

H : 100-150-200-250-300-350-400-450-500-550-600-650-700-750-800-900-1000

\* Any combination of these sizes

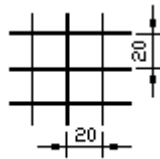
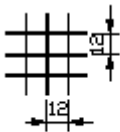
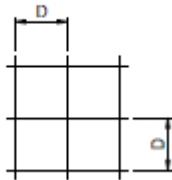
### FRAME TYPES:



### DRAWINGS:

### GRID SIZES:

D size	D (mm)	
	12	20



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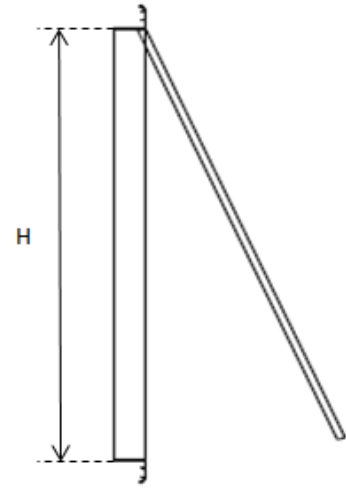
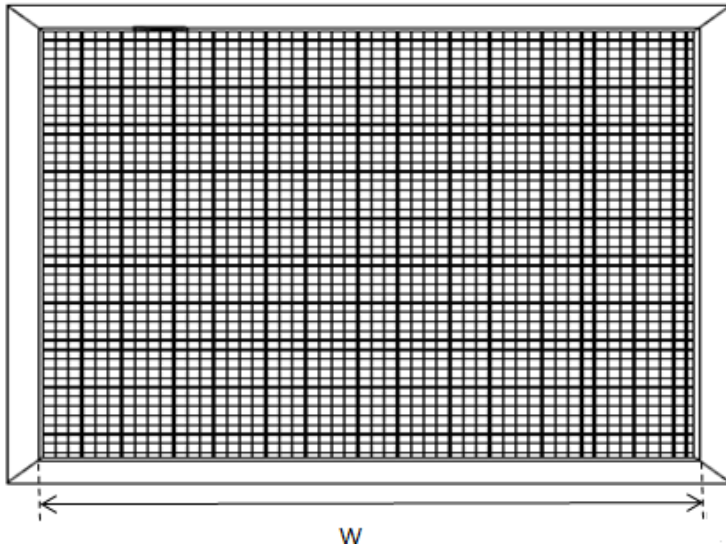
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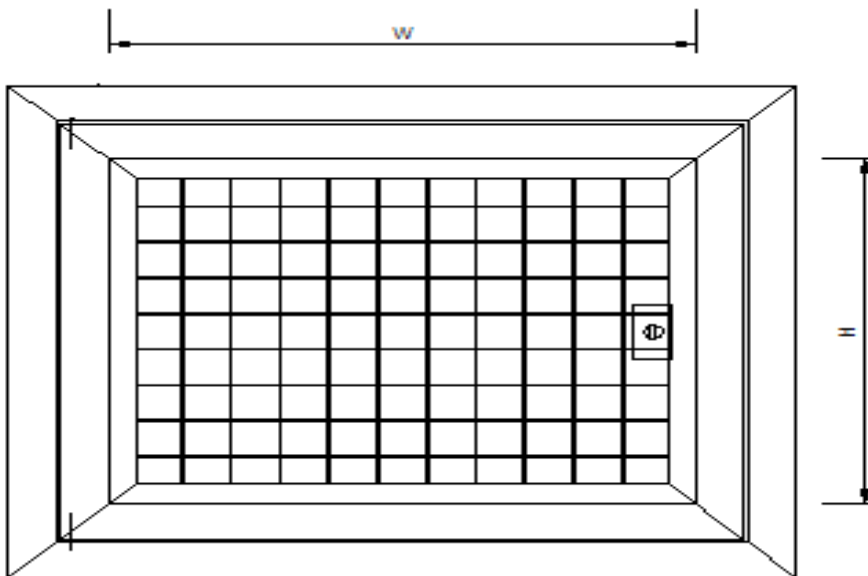
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### EGG CRATE GRILLES AND ACCESS DOOR:



#### Type -1



#### Type-2 (If filter is added, double frame is used.)





## QUICK SELECTION TABLE:

DEBI (m <sup>3</sup> /h)	WX H	200 x 100	300 x 150	400 x 200	300 x 300	500 x 300	600 x 300	800 x 300	600 x 600	1000 x 600
	A <sub>k</sub> (m <sup>2</sup> )	0,017	0,040	0,072	0,081	0,135	0,163	0,217	0,328	0,547
200	NR	11								
	Pt (Pa)	6,6								
	V (m/s)	3,3								
300	NR	21								
	Pt (Pa)	14,1								
	V (m/s)	4,9								
400	NR	28	11							
	Pt (Pa)	18,0	5,0							
	V (m/s)	6,5	2,8							
500	NR		16							
	Pt (Pa)		7,2							
	V (m/s)		3,5							
600	NR		21	9						
	Pt (Pa)		9,9	3,3						
	V (m/s)		4,2	2,3						
800	NR		28	16						
	Pt (Pa)		18,0	6,0						
	V (m/s)		5,6	3,1						
1000	NR			21	19					
	Pt (Pa)			8,7	6,9					
	V (m/s)			3,9	3,4					
1200	NR			26	23					
	Pt (Pa)			12,6	9,9					
	V (m/s)			4,6	4,1					
1500	NR			31	28	18				
	Pt (Pa)			17,4	15,3	5,7				
	V (m/s)			5,8	5,1	3,1				
2000	NR				35	25	21	16		
	Pt (Pa)				25,2	9,9	6,9	4,2		
	V (m/s)				6,8	4,1	3,4	2,6		
3000	NR					35	31	26	17	
	Pt (Pa)					18,6	15,3	8,1	3,6	
	V (m/s)					6,2	5,1	3,8	2,5	
4000	NR						37	32	24	
	Pt (Pa)						25,2	15,3	6,9	
	V (m/s)						6,8	5,1	3,4	
5000	NR							39	30	
	Pt (Pa)							19,8	10,5	
	V (m/s)							6,4	4,2	
6000	NR							44	34	23
	Pt (Pa)							30,0	15,3	5,4
	V (m/s)							7,7	5,1	3,0

Qk(m<sup>3</sup>/h) = Air flow  
Ak(m<sup>2</sup>) = Effective Area

Vk(m/s) = Velocity  
Pt(Pa) = Pressure Lost

\* All measure are in mm.



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## SELECTION DIAGRAM:

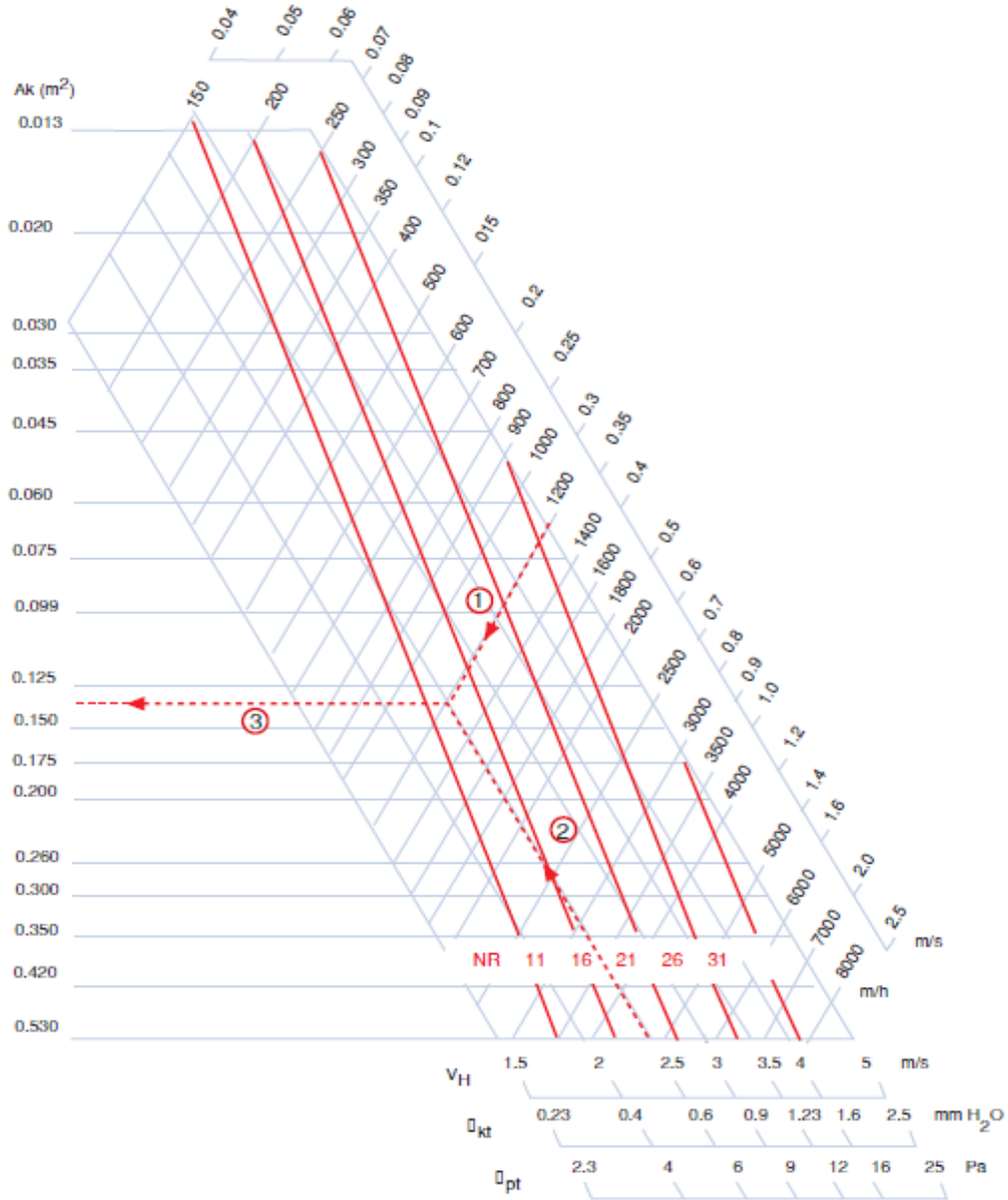


Diagram-1

without Damper	100 % Damper Open	50 % Damper Open	25 % Damper Open
Pt X 1.00	Pt X 1.00	Pt X 2.25	Pt X 5.90
LW + 0	LW + 0	LW + 10	LW + 20

Table-1

without filter	with filter
Pt X 1.00	Pt X 1.70
LW + 0	LW + 0

Table-2





### EFFECTIVE AREA:

#### KPM 12x12mm Effective Area Ak(m<sup>2</sup>)

		Ak (m <sup>2</sup> )										
		H (mm)										
W (mm)		200	250	300	400	450	500	600	700	800	1000	1200
	100	0,016	0,020	0,024	0,033	0,037	0,041	0,049	0,057	0,065	0,081	0,098
	150	0,025	0,032	0,038	0,051	0,057	0,063	0,076	0,089	0,101	0,127	0,152
	200	0,034	0,043	0,051	0,068	0,077	0,085	0,102	0,119	0,136	0,170	0,204
	250	0,042	0,053	0,064	0,085	0,095	0,106	0,127	0,148	0,170	0,212	0,254
	300	0,050	0,063	0,076	0,101	0,113	0,126	0,151	0,176	0,201	0,252	0,302
	400	0,065	0,081	0,098	0,130	0,147	0,163	0,196	0,228	0,261	0,326	0,391
	450	0,072	0,090	0,108	0,144	0,162	0,180	0,216	0,252	0,288	0,360	0,432
	500	0,079	0,098	0,118	0,157	0,177	0,196	0,236	0,275	0,314	0,393	0,471
	600	0,090	0,113	0,136	0,181	0,203	0,226	0,271	0,316	0,361	0,452	0,542

Table-3

#### KPM 20x20mm Effective Area Ak(m<sup>2</sup>)

		Ak (m <sup>2</sup> )										
		H (mm)										
W (mm)		200	250	300	400	450	500	600	700	800	1000	1200
	100	0,0177	0,0220	0,0265	0,0353	0,0398	0,0442	0,0530	0,0619	0,0707	0,0884	0,1060
	150	0,0271	0,0338	0,0406	0,0542	0,0610	0,0677	0,0813	0,0948	0,1084	0,1355	0,1626
	200	0,0363	0,0453	0,0544	0,0726	0,0816	0,0907	0,1088	0,1270	0,1451	0,1814	0,2177
	250	0,0452	0,0565	0,0678	0,0905	0,1018	0,1131	0,1357	0,1583	0,1809	0,2262	0,2714
	300	0,0540	0,0674	0,0809	0,1079	0,1214	0,1349	0,1619	0,1888	0,2158	0,2698	0,3237
	400	0,0707	0,0883	0,1060	0,1414	0,1591	0,1767	0,2121	0,2474	0,2828	0,3535	0,4242
	450	0,0787	0,0984	0,1181	0,1574	0,1771	0,1968	0,2362	0,2755	0,3149	0,3936	0,4723
	500	0,0865	0,1081	0,1298	0,1730	0,1947	0,2163	0,2595	0,3028	0,3460	0,4326	0,5191
	600	0,1014	0,1267	0,1521	0,2028	0,2281	0,2535	0,3042	0,3549	0,4056	0,5070	0,6084

Table-4

### Sample Grille Selection:

$$Q_v = 1200 \text{ m}^3/\text{h} (1) , V_h : 2,5\text{m/s} (2)$$

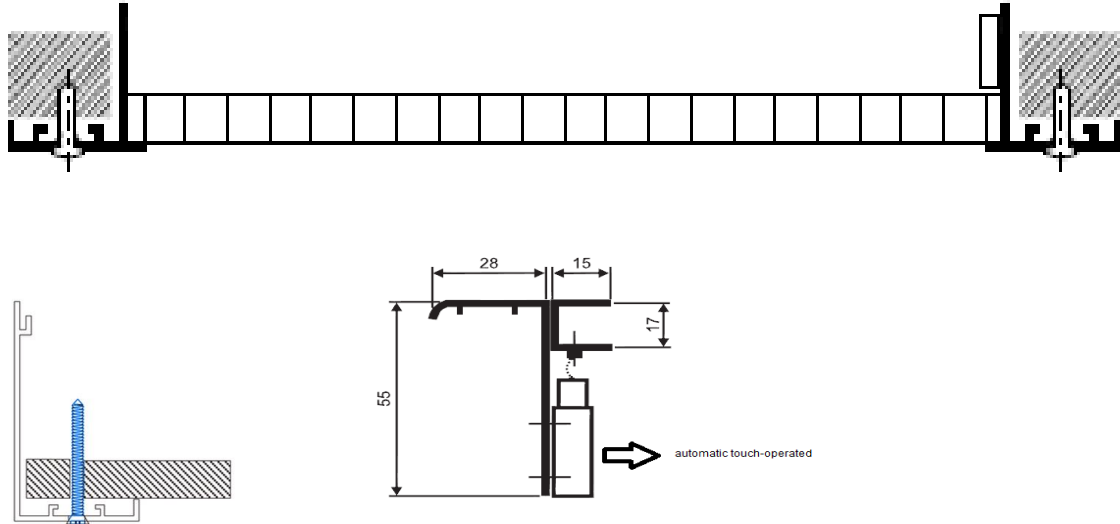
### Result :

Diagram 1 for ; Ak : 0,135m<sup>2</sup> (3) , Pt : 6,0 Pa Table-3 for WxH = 600x300

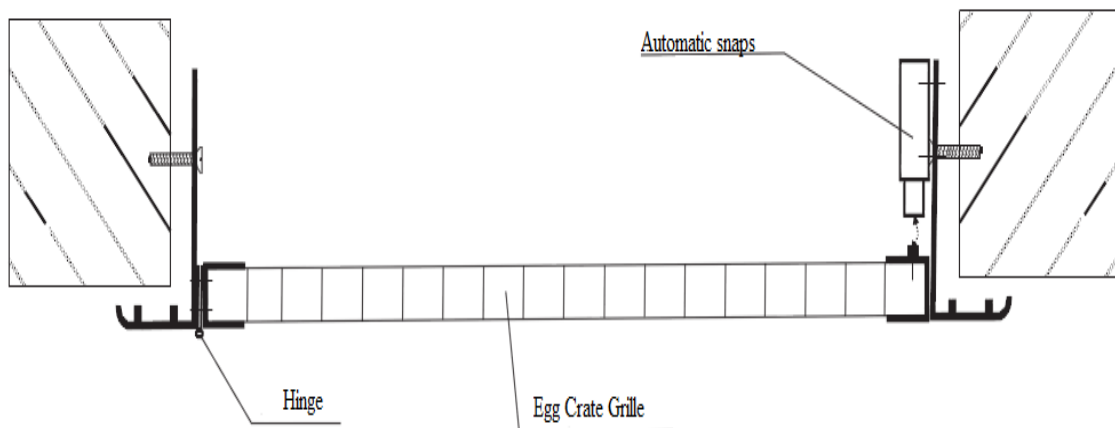


## MOUNTING DETAILS:

### 1- Screw Mounting Details



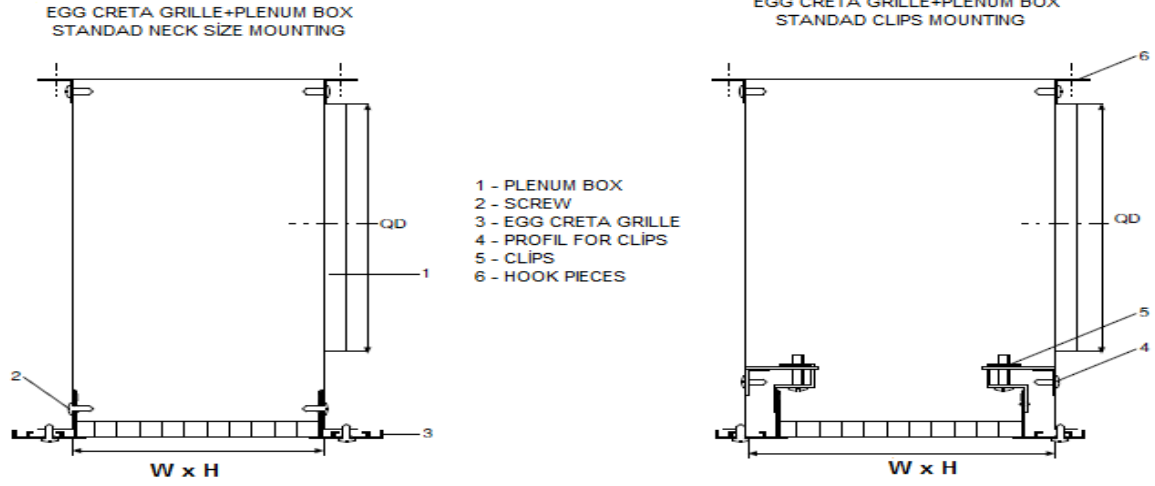
### 2 – Screw Mounting Details with hide





## PLENUM BOX MOUNTING DETAILS :

### SID ENTRY PLENUM BOX MOUNTING DETAILS:



### Application Example:





## ORDER CODE :

KPMK-12	00	22	00	RAL9010	VD	W 400X400
12mm Grid 22mm Grid						W: Neck Size C: Frame Size
00: Without accessories FL: Filter PL: Plenum Box						00: without Mounting VD: Screw Mounting KL: Clips Mounting ST: Spring Mounting
22mm Frame = 22mm 32mm Frame = 32mm						
00: without Damper ZKD: Opposite Blade Damper PKD: ParalleL Blade Damper						00: without coating EL: Anodic Aluminium RAL----: Powder Coated RAL

